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10/656,253	09/08/2003	Michael J. Hawthorne	509/35644D	8600

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Washington, DC 20006

EXAMINER
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LUU, CUONG V

ART UNIT	PAPER NUMBER
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2128

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/12/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/656,253

Applicant(s)

HAWTHORNE ET AL.

Examiner

Cuong V. Luu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

Claims 1-15 are pending. Claims 1-15 have been examined. Claims 1-15 have been rejected.

The Examiner would like to thank the Applicant for the well-presented response, which was useful in the examination, proves. The Examiner appreciates the effort to perform a careful analysis and make appropriate amendments to the claims.

### ***Response to Arguments***

1. Applicant's arguments filed 10/25/2006 have been fully considered. The applicant argues that the calculation of rolling resistance is not "automatically adjusting using software the initial parameters of the simulator until the data of the simulator matches the data of the train." The applicant explains that there is no measured not initial rolling resistance, and thus there can be no comparison of the calculated rolling resistance to the actual rolling resistance and modification of the initial parameters of the simulator until this calculation matches the actual measured data. The applicant seems confused between measured data and parameters of the train model. Rolling resistance is not a measured data. It is a parameter of the train model, as evidence in claim 2, to be adjusted. Therefore, this argument by the applicant is invalid. Mosier (U.S. Patent 4,041,283) teaches the calculation of the parameter rolling resistance of the train model and, then this parameter in the train model is corrected or adjusted by the computer (col. 17, lines 30-59). The correction by the computer indicates that the adjustment is automatically done. Mosier does not teach adjusting parameters in combination with until data of the simulator matches the data from the train. Polivka (U.S. Patent 5,828,929) teaches comparing the actual performance, which is equivalent to measured data, with predicted performance, which is equivalent to data

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produced from the simulator, in order to automatically calibrate the model (col. 8, lines 5-8).

It would have been obvious to one of ordinary skill in the art to combine the teachings of Mosier and Polivka to compare the measured data with data produced from the simulator to adjust the parameters of the model until the measured data matches data produced from the simulator. Polivka's teachings would have improved subsequent predictions (col. 8, lines 5-8).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Claims 1-2, 5-7, 10-14 are rejected under 35 U.S.C. 103(a) as being anticipated by Mosier (U.S. Patent 4,041,283) in view of Polivka (U.S. Patent 5,828,929).**

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2. As per claim 1, Mosier teaches a method of adjusting a simulator comprising:

inputting the data from a train into the simulator (col. 17, lines 10-14);

operating the simulator with the data (the abstract); and

adjusting automatically parameters of the simulator (col. 17, lines 30-59. Mosier teaches using car (train) data such as train velocity, grade and curves values to calculate rolling resistance, a parameter in train model; updating this parameter in the simulation model to determine braking forces if brake is applied; and determining pulling force. These teachings are regarded as adjusting automatically parameters (rolling resistance and pulling force) of the simulator).

But does not teach adjusting automatically parameters of the simulator in combination with until data of the simulator matches the data from the train.

Polivka (U.S. Patent 5,828,929) teaches comparing the actual performance, which is equivalent to measured data, with predicted performance, which is equivalent to data produced from the simulator, in order to automatically calibrate the model (col. 8, lines 5-8). It would have been obvious to one of ordinary skill in the art to combine the teachings of Mosier and Polivka to compare the measured data with data produced from the simulator to adjust the parameters of the model until the measured data matches data produced from the simulator. Polivka's teachings would have improved subsequent predictions (col. 8, lines 5-8).

3. As per claim 2, Mosier teaches the parameters including grade resistance, curve resistance, rolling resistance, (col. 12, lines 11-18).

4. As per claim 3, Mosier teaches analyzing the inputted data on the simulator after adjusting of the parameters (col. 7, lines 43-48. Mosier teaches analyzing the coupling force in various operating circumstances. Various operating circumstances here correspond to input measured data to be considered after the parameter coupling force is adjusted, and it is used to analyze to determine if the current operating conditions are safe or not in order to minimize potential derailment and parting situation).
5. As per claim 4, Mosier teaches the analysis includes identifying anomalies in the inputted data and reporting the anomalies (col. 7, lines 43-48. Mosier teaches analyzing the coupling force in various operating circumstances to minimize potential derailment and parting situation. Various operating circumstances here correspond to input measured data to be considered after the parameter coupling force is adjusted, and it is used to analyze to determine if the current operating conditions are safe or not in order to minimize potential derailment and parting situation, which are anomalies to be identified and reported if there were any).
6. As per claim 5, Mosier teaches adjusting the parameters includes comparing the simulator data and the train data during a change of velocity (col. 18, lines 43-52. The discussion updating train's speed and updating profile data in these lines suggest periodic comparison of simulator data and train data corresponding with speed of the train. Therefore, it reads on the limitation of this claim).
7. As per claim 6, Mosier teaches the train data is from an event recorder on the train (col. 17, lines 11-14, 22-29. These lines suggest that data is recorded from the train) and adjusting

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the parameters includes comparing the simulator data and the event recorder data during one or more trip features including: curves, grades, braking and throttle changes (this limitation has already been discussed in claim 5).

8. As per claim 7, these limitations have already been discussed in claims 1 and 5. They are, therefore, rejected for the same reasons.
9. As per claim 10, these limitations have already been discussed in claim 1. They are, therefore, rejected for the same reasons.
10. As per claim 11, these limitations have already been discussed in claim 2. They are, therefore, rejected for the same reasons.
11. As per claim 12, these limitations have already been discussed in claim 3. They are, therefore, rejected for the same reasons.
12. As per claim 13, these limitations have already been discussed in claim 6. They are, therefore, rejected for the same reasons.
13. As per claim 14, these limitations have already been discussed in claim 6. They are, therefore, rejected for the same reasons.

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**Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mosier in view of Polivka as applied to claim 1 above, and further in view of Herzberg et al (U.S. Patent 5,023,791).**

14. As per claim 8, Mosier and Polivka do not teach providing a simulator on the train.

Herzberg et al teach a flight simulator on the plane (col. 4, lines 41-48).

It would have been obvious to one of ordinary skill in the art to combine the teachings of Mosier, Polivka, and Herzberg et al. Herzberg et al's teachings would have enabled simulation of in-operation conditions of the train (col. 4, lines 41-45).

**Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mosier in view of Polivka and Herzberg et al as applied to claims 1 and 8 above, and further in view of Lynch et al.**

15. As per claim 9, Mosier, Polivka and Herzberg et al do not teach storing the adjusted parameters with the data of the train on an event recorder on the train.

Lynch et al teach this feature (col. 7, lines 34-54).

It would have been obvious to one of ordinary skill in the art to combine the teachings of Mosier, Polivka, Herzberg et al, and Lynch et al. Lynch et al's teachings would have compiled data to be analyzed later.

**Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mosier in view of Polivka as applied to claims 10 and 13 above, and further in view of Lynch et al.**



16. As per claim 15, these limitations have already been discussed in claim 9. They are, therefore, rejected for the same reasons.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cuong V. Luu whose telephone number is 571-272-8572. The examiner can normally be reached on Monday-Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah, can be reached on 571-272-2279. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. An inquiry of a general nature or relating to the status of this application should be directed to the TC2100 Group receptionist: 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CVL

  
**KAMINI SHAH**  
**SUPERVISORY PATENT EXAMINER**